

ABSTRACT OF THE DISCLOSURE

Natural killer (NK) cells constitute the third major population of lymphocytes. They possess the inherent capacity to kill various tumor and virally infected cells and mediate the rejection of bone-marrow grafts in lethally irradiated animals. A large family of NK cell receptors belong to the C-type lectin super-family and are localized to the NK gene complex on Chromosome (Chr) 6 in the mouse and Chr 12 in the human. Genes in the NK gene complex encode type II receptors and examples include the families of NKR-P1, Ly-49, and NKG2 receptors. Examples of other C-type lectin-like NK cell receptors that occur as individual genes are CD94, CD69, and AICL. Here we report the molecular characterization and chromosomal mapping of a human lectin-like transcript (LLT1) expressed on NK, T, and B cells and localized to the NK gene complex within 100 kilobases of CD69. The cDNA encodes a predicted protein of 191 amino acid residues with similarity to the carbohydrate recognition domain of C-type lectins. The predicted protein of LLT1 shows 59 and 56% similarity to AICL and CD69, respectively. The predicted protein does not contain any intracellular ITIM motifs, suggesting that LLT1 may be involved in mediating activation signals.